ARCPANEL

Product Colours & Span Tables

VERSION 2021

Refer to Design, Detailing & Installation Guide for full product information

AS 5637.1 GROUP 1
AS 3959 BAL-40

THERMAL RATING
UP TO R6.5

COASTAL &
SEVERE MARINE

CYCLONE RATED
UP TO C4

LARGE SPANS
& CANTILEVERS

Custom Panel

STRAIGHT, CURVED & MULTI-CURVED CONFIGURATIONS

Updated: 01/11/2022

Colorbond®
MADE BY AUSTRALIA

Introduction & General Notes

Custom Panel

FULLY INTEGRATED ROOF SYSTEM

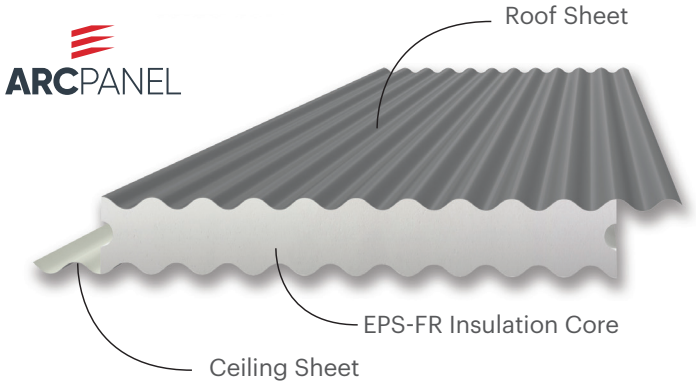
ARCPANEL Custom roof panel combines aesthetic, innovative design, with high strength, durability and excellent thermal insulation. ARCPANEL panels can also be curved to produce an outstanding architectural feature and provide increased interior space. The ARCPANEL Custom roof panel can achieve significant cantilevers, in some applications up to half the actual back span and this unique system eliminates the need for complex, expensive roof structures. The lightweight ARCPANEL panels are easily handled on site, achieving faster, lower cost installation.

UNIQUE DESIGN & CONSTRUCTION

ARCPANEL pre-fabrication starts with standard Corrugated COLORBOND® steel sheeting, bonded to both sides of profiled EPS. The panel yields high strength resulting in large spans and cantilevers along with a high insulation value. Standard ratings from R1.7 to R6.5 can easily be achieved. The strength of this construction means that the ARCPANEL Custom roof panel is suitable for use in cyclonic conditions. After the panels are fixed in place, there is virtually no maintenance required other than the occasional wash down of soffits.

On site time spent fitting trusses, eave linings, plasterboard, battens, insulation lining, roof sheeting and painting, is eliminated when using ARCPANEL Custom roof panel.

Straight, Bull nose, Curved & Multi-curved panels can be manufactured using COLORBOND® steel, COLORBOND® steel Matt, COLORBOND® Ultra steel, COLORBOND® Metallic steel, SUPERDURA™ Stainless steel, ZINCALUME® steel and Xtreme (Magnaflow®). Available in a range of classic and contemporary COLORBOND® steel colours.



BAL-40 CERTIFIED & COMPLIANT

KEY FEATURES AND BENEFITS

- ✓ Achieve up to 12.5m unsupported spans - reduce expensive support structures e.g. roof trusses & support beams
- ✓ Corrugated profile is used on both sides, reducing the need for ceilings and internal painting
- ✓ Pre-finished - extensive range of COLORBOND® steel colours
- ✓ Straight, curved or multi-curved configurations, suitable for most architectural designs
- ✓ Dependant on the design, cantilevers of up to half the actual backspan can be achieved
- ✓ Suitable for use in cyclonic wind conditions
- ✓ ARCPANEL Custom roof panel is available in COLORBOND® steel, COLORBOND® steel Matt, COLORBOND® Ultra steel, COLORBOND® Metallic steel, SUPERDURA™ Stainless steel, ZINCALUME® steel & Xtreme Magnaflow®
- ✓ Rapid installation makes the ARCPANEL Custom roof panel a clear winner over traditional roof construction
- ✓ Fire rated to Group 1 - roof and wall lining material
- ✓ Superior standard thermal ratings up to R6.5 are achieved using the ARCPANEL Custom roof panel
- ✓ Panels meet the requirements for live and concentrated imposed loads for roofs not accessible except for normal maintenance as per AS1170.1:2002
- ✓ Bushfire attack level BAL-12.5 to BAL-40

ROOF TYPES

STRAIGHT PROFILE

Straight panels can be manufactured up to 20 metres in length, suitable for housing, awnings, patios, commercial and industrial projects.

CURVED PROFILE

Curved panels can be manufactured to a minimum radius of 3m.

Curved panels can be manufactured in lengths up to 20 metres, panels can be joined to achieve longer runs.

MULTI CURVED PROFILE

Multi-curved panels can be manufactured to a minimum radius of 3m.

Multi-curved panels can be manufactured in lengths up to 20 metres, panels can be joined to achieve longer runs.

BULLNOSE PROFILE

Panels can be manufactured to suit a Bull nose radii 750mm to 1200mm.

Bull nose panels can be manufactured in lengths up to 12 metres.

Version 2021. Always refer to local state building regulations and current safety requirements. Updated: 01/11/2022.

ARCPANEL Insulated panel's offer industry leading warranties, it is important that care is taken when selecting the sheeting material. Environmental conditions, coastal & geographic locations and extreme weather conditions should all be considered. Other points such as roof pitch, metal thickness and direction of lay are also important. The sheeting plays an important part in the structural design of ARCPANEL's insulated roof system.

Please feel free to contact us for further information. Technical Bulletins from Bluescope Steel are available from ARCPANEL or visit www. bluescopesteel.com.au.

Sheeting Material Types

COLORBOND® STEEL (Standard Finish)

While standard COLORBOND® steel will suit most residential and commercial designs in most locations it is most suitable for: Non-Coastal, Coastal Locations 1km-5km and Marine location greater than 200mm from salt or brackish environments.

ZINCALUME® STEEL

Next generation ZINCALUME® steel's patented Activate® technology introduces magnesium into the aluminium-zinc alloy coating, improving galvanic protection by activating the aluminium. The result is a tougher protective coating that's more resistant to scratches and scuffs encountered during construction. Suitable for: Non-Coastal, Coastal Locations 1km-5km and Marine location greater than 200mm from salt or brackish environments.

COLORBOND® ULTRA STEEL

CCOLORBOND® Ultra steel is especially designed for severe coastal and industrial environments - where there is exposure to salt or brackish water in the air and approximately 100 to 200 metres from breaking surf. Similarly, the effects of industrial emissions (fumes and/or particulate fallout) are typically lessened 100 to 200 metres from the source. Suitable for: Severe Marine Locations to Coastal Location and Aquatic/Swimming Pool environments.

SUPERDURA™ STAINLESS STEEL

SUPERDURA™ Stainless steel is the recommended roofing material for coastal areas where there is a constant salt spray in the air – within 100 metres from breaking surf - or within proximity to industrial emissions. Suitable for: Non Coastal, Coastal to Severe Marine Locations and Aquatic/Swimming Pool environments.

ARCPANEL XTREME (MAGNAFLOW)

The superior corrosion resistance of ARCPANEL's Xtreme roofing material is achieved using Magnaflow, means it is an ideal choice for more demanding environments, such as roofs 100m from the coastline. The magnesium in the aluminium/zinc/magnesium alloy coating 'magically' helps zinc flow over cut edges, sealing them and providing long term protection against corrosion. Suitable for: Severe Marine Locations to Coastal Location and Aquatic/ Swimming Pool environments.

AQUATEK APPLICATIONS

For enclosed aquatic applications, ARCPANEL recommends the use of ARCPANEL Aquatek Panel with large spanning capabilities and a range of panel thicknesses to suit your project, the ARCPANEL Aquatek Roof systems is the ultimate roof solution.

Please refer to ARCPANEL's Aquatek Guide for further information.

COLORBOND® steel is a registered trademark of Bluescope Steel. Magnaflow is a registered trademark of Fletcher Steel Ltd.

Colorbond®

COLOUR RANGE - CLASSIC

Dover White™ SA = 0.28 BCA = L	Surfmist® SA = 0.32 BCA = L	Southerly® SA = 0.40 BCA = L	Shale Grey™ SA = 0.45 BCA = M
Bluegum® SA = 0.57 BCA = M	Windspray® SA = 0.58 BCA = M	Basalt® SA = 0.71 BCA = D	Classic Cream™ SA = 0.32 BCA = L
Paperbark® SA = 0.42 BCA = M	Evening Haze® SA = 0.43 BCA = M	Dune® SA = 0.47 BCA = M	Gully® SA = 0.63 BCA = D
Jasper® SA = 0.68 BCA = D	Manor Red® SA = 0.69 BCA = D	Wallaby® SA = 0.64 BCA = D	Woodland Grey® SA = 0.71 BCA = D
Pale Eucalypt® SA = 0.60 BCA = M	Cottage Green® SA = 0.75 BCA = D	Ironstone® SA = 0.74 BCA = D	Deep Ocean® SA = 0.75 BCA = D
Monument® SA = 0.73 BCA = D	Night Sky® SA = 0.96 BCA = D		

COLOUR RANGE - MATT FINISH

Surfmist® SA = 0.35 BCA = L	Dune® SA = 0.48 BCA = M	Shale Grey™ SA = 0.45 BCA = M	Bluegum® SA = 0.57 BCA = M
Basalt® SA = 0.71 BCA = D	Monument® SA = 0.79 BCA = D		

COLORBOND® ULTRA STEEL

Surfmist® SA = 0.32 BCA = L	Shale Grey™ SA = 0.45 BCA = M	Windspray® SA = 0.58 BCA = M	Dune® SA = 0.47 BCA = M
Wallaby® SA = 0.64 BCA = D	Woodland Grey® SA = 0.71 BCA = D	Monument® SA = 0.73 BCA = D	

SUPERDURA™ STAINLESS STEEL

SURFMIST®

Surfmist® Stainless SA = 0.36 BCA = L

COOLMAX® STEEL

WHITEHAVEN®

Whitehaven® SA = 0.23 BCA = L

COLORBOND® STEEL METALLIC FINISH (subject to availability)

Galactic™ SA = 0.34 BCA = L	Cosmic™ SA = 0.39 BCA = L	Rhea™ SA = 0.49 BCA = M	Astro™ SA = 0.62 BCA = D

COLOUR RANGE ARCPANEL XTREME (MAGNAFLOW®)

Off White SA = 0.35 BCA = L	Birch* SA = 0.45 BCA = M	Armour Grey* SA = 0.59 BCA = M
Slate Grey* SA = 0.72 BCA = D	Monolith* SA = 0.75 BCA = D	

*Lead times are subject to supplier availability.

Colour swatches are provided as an indication of colour only and may not be an actual representation of colour. We recommend checking your chosen colour against an actual sample of the product before purchasing.

Corrosion resistant options available for coastal applications - please contact us for more details.

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ARCPANEL PRODUCT STRUCTURAL WARRANTY FOR ROOFING APPLICATIONS (SAMPLE ONLY)

INDICATIVE & MAXIMUM STRUCTURAL WARRANTY PERIOD - SUBJECT TO PRIOR APPROVAL

Environment	(ISO Cat.1)	(ISO Cat.2)	(ISO Cat.3)	(ISO Cat.4)	(ISO Cat.5)	(Highly Corrosive)
Panel Material	Non-Coastal 5km+	Coastal 1km to 5km	Marine (calm) Industrial 500m to 1km	Severe Marine (calm) Industrial 100 to 500m	Very Severe Marine (surf) 50m to 500m Corrosive Industrial 0m to 100m	Enclosed Aquatic Centre Swimming Pools
COLORBOND® STEEL / ZINCALUME®	**20 years**	**15 years**	**10 years**	By Enquiry	No Warranty	No Warranty
COLORBOND® ULTRA STEEL	**20 years**	**20 years**	**15 years**	**10 years**	By Enquiry	By Enquiry
COLORCOTE MAGNAFLOW®	**20 years**	**20 years**	**20 years**	**15 years**	By Enquiry	By Enquiry
SUPERDURA™ STAINLESS STEEL	**20 years**	**20 years**	**20 years**	**20 years**	**20 years**	**20 years**
COOLMAX® STEEL	**20 years**	**20 years**	**20 years**	**20 years**	**20 years**	**20 years**

BLUESCOPE STEEL - COLORBOND® STEEL MATERIAL AND COLOUR SELECTION CHART — TABLE 1

Colour	Classification	Solar Absorbance	Availability		Recommended for use to		Curving Grade	NSW Basix Sustainability Index
			Standard	Ultra	Roof Side	Ceiling Side		
COLORBOND® steel								
Basalt®	Dark	0.69	✓		NO**	✓		M
Bluegum®	Medium	0.57	✓		✓	✓	✓	M
Classic Cream™	Light	0.31	✓		✓	✓	✓	L
Cottage Green	Dark	0.75	✓		NO**	✓	✓	D
Deep Ocean®	Dark	0.75	✓		NO**	✓	✓	D
Dover White™	Light	0.28	✓		✓	✓	✓	L
Dune®	Medium	0.47	✓	✓	✓	✓	✓	L
Evening Haze®	Medium	0.43	✓		✓	✓	✓	L
Gully®	Dark	0.63	✓		✓	✓		M
Ironstone®	Dark	0.74	✓		NO**	✓	✓	D
Jasper®	Dark	0.68	✓		✓	✓	✓	M
Manor Red®	Dark	0.69	✓		NO**	✓	✓	M
Monument®	Dark	0.73	✓	✓	NO**	✓	✓	D
Night Sky®	Dark	0.96	✓		NO**	✓		D
Pale Eucalypt®	Medium	0.60	✓		✓	✓	✓	M
Paperbark®	Medium	0.42	✓		✓	✓	✓	L
Shale Grey®	Medium	0.43	✓	✓	✓	✓	✓	L
Southerly®	Light	0.40	✓		✓	✓	✓	L
Surfmist®	Light	0.32	✓	✓	✓	✓	✓	L
Wallaby®	Dark	0.64	✓	✓	✓	✓		M
Whitehaven®	Light	0.23	✓		✓	✓		L
Windspray®	Medium	0.58	✓	✓	✓	✓	✓	M
Woodland Grey®	Dark	0.71	✓	✓	NO**	✓		D
ZINCALUME®*	Light	<0.35			✓		✓	L
STAINLESS STEEL								
Surfmist®	Light	0.318			✓	✓		L
COOLMAX® STEEL								
Whitehaven®	Light	0.23			✓	✓		L
ARCPANEL XTREME (MAGNAFLOW®)								
Off White	Light	0.35			✓	✓		L
Birch	Medium	0.45	✓		✓	✓		M
Armour Grey	Medium	0.59	✓		✓	✓		M
Slate Grey	Dark	0.72	✓		NO**	✓		D
Monolith	Dark	0.75	✓		NO**	✓		D

IMPORTANT NOTES: USE OF DARK COLOURS FOR EXTERNAL FINISHES, LIMITED WARRANTY APPLIES, PLEASE CONTACT ARCPANEL FOR FURTHER INFORMATION.

* Galv, ZINCALUME®, COLORBOND® Matt and COLORBOND® dark colours may show minor visible roll forming process marks, this is a characteristic of roll forming process and not a defect.

** Colours with a NCC / BCA 'Dark' classification having a solar absorbance of greater than 0.68 are not recommended to be used as a top roof or outer wall sheeting. Increased surface temperature, expansion, deflection and thermal movement can be expected of an insulated panel when using dark colours exposed to direct sunlight. The building designer is responsible for colour selection, acknowledges and accepts any associated design risks. Arcpanel warranty does not cover structural damage to the building or to the panels caused by extreme or concentrated dry heat loads and surface temperatures in excess of 78 degrees Celsius.

NON CYCLONIC - SINGLE SPAN — TABLE 3A

Midspan deflection up to span/120 at serviceability limit state; Self weight deflection up to span/600. Maximum unsupported Spans (mm)

Wind Class (Permissible)	Strength Limit State Design Wind Pressure (P) (kPa)	Total R Value R1.7 75mm Panel		Total R Value R2.0 85mm Panel		Total R Value R2.4 100mm Panel		Total R Value R3.1 125mm Panel		Total R Value R3.5 140mm Panel		Total R Value R4.1 160mm Panel		Total R Value R4.5 175mm Panel		Total R Value R5.2 200mm Panel		Total R Value R6.5 250mm Panel	
		Max Span	Max Cantilever	Max Span	Max Cantilever	Max Span	Max Cantilever	Max Span	Max Cantilever	Max Span	Max Cantilever	Max Span	Max Cantilever	Max Span	Max Cantilever	Max Span	Max Cantilever	Max Span	Max Cantilever
N2-W33	**1.52**	**4900**	**1960**	**5400**	**2160**	**6200**	**2480**	**7500**	**3000**	**8100**	**3240**	**8500**	**3400**	**9500**	**3800**	**10500**	**4200**	**12000**	**4500**
	1.68	4720	1885	5205	2080	5980	2390	7220	2885	7820	3125	8200	3280	9200	3680	10160	4060	11600	4340
	1.85	4540	1815	5010	2000	5760	2300	6940	2775	7540	3015	7900	3160	8900	3560	9820	3925	11200	4180
	2.01	4360	1740	4815	1925	5540	2215	6660	2660	7260	2900	7600	3040	8600	3440	9480	3790	10800	4020
	2.18	4180	1670	4620	1845	5320	2125	6380	2550	6980	2790	7300	2920	8300	3320	9140	3655	10400	3860
N3-W41	**2.34**	**4000**	**1600**	**4425**	**1770**	**5100**	**2040**	**6100**	**2440**	**6700**	**2680**	**7000**	**2800**	**8000**	**3200**	**8800**	**3520**	**10000**	**3700**
	2.57	3840	1500	4265	1665	4910	1920	5880	2300	6460	2525	6760	2645	7720	3020	8500	3325	9680	3520
	2.80	3680	1405	4105	1565	4720	1800	5660	2160	6220	2375	6520	2490	7440	2840	8200	3130	9360	3340
	3.03	3520	1310	3945	1465	4530	1685	5440	2025	5980	2225	6280	2335	7160	2665	7900	2940	9040	3165
	3.26	3360	1215	3785	1365	4340	1565	5220	1885	5740	2075	6040	2180	6880	2485	7600	2745	8720	2985
N4-W50	**3.50**	**3200**	**1120**	**3625**	**1265**	**4150**	**1450**	**5000**	**1750**	**5500**	**1925**	**5800**	**2030**	**6600**	**2310**	**7300**	**2555**	**8400**	**2810**
	3.80	3040	1040	3450	1175	3980	1355	4820	1645	5300	1810	5600	1910	6360	2170	7040	2400	7980	2625
	4.11	2880	960	3275	1085	3810	1265	4640	1540	5100	1695	5400	1790	6120	2030	6780	2250	7560	2440
	4.41	2720	880	3100	1000	3640	1170	4460	1435	4900	1580	5200	1675	5880	1895	6520	2100	7140	2255
	4.72	2560	800	2925	910	3470	1080	4280	1330	4700	1465	5000	1555	5640	1755	6260	1950	6720	2070
N5-W60	**5.03**	**2400**	**720**	**2750**	**825**	**3300**	**990**	**4100**	**1230**	**4500**	**1350**	**4800**	**1440**	**5400**	**1620**	**6000**	**1800**	**6300**	**1890**

PLEASE NOTE: Maximum cantilever is 50% of backspan (span closest to cantilever) in N1 to N3 wind classes, 40% maximum cantilever for N4 & N5 wind classes.

NON CYCLONIC - MULTI SPAN (OPTION) - (Y SPAN MUST BE BETWEEN 30-70% OF SPAN X) — TABLE 3B

Midspan deflection up to span/120 at serviceability limit state; Self weight deflection up to span/600. Maximum unsupported Spans (mm)

Wind Class (Permissible)	Strength Limit State Design Wind Pressure (P) (kPa)	Total R Value R1.7 75mm Panel		Total R Value R2.0 85mm Panel		Total R Value R2.4 100mm Panel		Total R Value R3.1 125mm Panel		Total R Value R3.5 140mm Panel		Total R Value R4.1 160mm Panel		Total R Value R4.5 175mm Panel		Total R Value R5.2 200mm Panel		Total R Value R6.5 250mm Panel	
		Max Span	Max Cantilever	Max Span	Max Cantilever	Max Span	Max Cantilever	Max Span	Max Cantilever	Max Span	Max Cantilever	Max Span	Max Cantilever	Max Span	Max Cantilever	Max Span	Max Cantilever	Max Span	Max Cantilever
N2-W33	**1.52**	**5390**	**1885**	**5940**	**2075**	**6820**	**2385**	**8250**	**2885**	**8910**	**3115**	**9350**	**3270**	**9975**	**3490**	**11025**	**3855**	**12500**	**4375**
	1.68	5190	1815	5725	2000	6575	2300	7940	2775	8600	3005	9020	3155	9660	3380	10665	3730	12080	4225
	1.85	4990	1745	5510	1925	6335	2215	7630	2665	8290	2895	8690	3040	9345	3270	10310	3605	11660	4080
	2.01	4795	1675	5295	1850	6090	2130	7325	2560	7985	2790	8360	2925	9030	3160	9950	3480	11240	3930
	2.18	4595	1605	5080	1775	5850	2045	7015	2450	7675	2680	8030	2810	8715	3050	9595	3355	10820	3785
N3-W41	**2.34**	**4400**	**1540**	**4865**	**1700**	**5610**	**1960**	**6710**	**2345**	**7370**	**2575**	**7700**	**2695**	**8400**	**2940**	**9240**	**3230**	**10400**	**3640**
	2.57	4220	1440	4685	1595	5400	1840	6465	2205	7105	2420	7435	2535	8105	2765	8925	3040	10060	3390
	2.80	4045	1345	4510	1495	5190	1720	6225	2065	6840	2270	7170	2380	7810	2590	8610	2855	9720	3140
	3.03	3870	1245	4335	1395	4980	1600	5980	1925	6575	2115	6905	2220	7515	2420	8295	2665	9380	2895
	3.26	3695	1150	4160	1295	4770	1480	5740	1785	6310	1965	6640	2065	7220	2245	7980	2480	9040	2645
N4-W50	**3.50**	**3520**	**1055**	**3985**	**1195**	**4565**	**1365**	**5500**	**1650**	**6050**	**1815**	**6380**	**1910**	**6930**	**2075**	**7665**	**2295**	**8700**	**2400**
	3.80	3340	975	3790	1105	4375	1270	5300	1545	5830	1695	6160	1790	6675	1940	7390	2150	8220	2300
	4.11	3165	895	3600	1015	4190	1180	5100	1440	5610	1580	5940	1670	6425	1810	7115	2005	7740	2200
	4.41	2990	815	3405	930	4000	1085	4905	1335	5390	1465	5720	1555	6170	1675	6845	1860	7260	2100
	4.72	2815	735	3215	840	3815	995	4705	1230	5170	1350	5500	1435	5920	1545	6570	1715	6780	2000
N5-W60	**5.03**	**2640**	**660**	**3025**	**755**	**3630**	**905**	**4510**	**1125**	**4950**	**1235**	**5280**	**1320**	**5670**	**1415**	**6300**	**1575**	**6300**	**1900**

PLEASE NOTE: Maximum cantilever is 50% of backspan (span closest to cantilever) in N1 to N3 wind classes, 40% maximum cantilever for N4 & N5 wind classes.

SPAN SELECTION NOTES (NON CYCLONIC AREAS)

1. Tables 3A, 3B and 3C apply to typical enclosed buildings built on the ground, less than 20m high with sealed doors and windows capable of resisting the applied wind pressures
2. Roof pressure coefficients: Cpe = 1.5 X -0.9 = -1.35, Cpi = +0.2 [Cpi = +0.7 at cantilever]
3. The building designer must take into account any application where the Cpi would exceed > 0.2 in open or partly open structures
4. Maximum cantilever for N1-W28, N2-W33 & N3-W41 is up to 50% actual backspan no greater than max length shown
5. Maximum cantilever for N4-W50 & N5-W60 is up to 40% actual backspan no greater than max length shown (Maximum cantilever lengths cannot be exceeded. Choose a thicker panel to achieve the required cantilever) (Minimum width of cantilevered roof is 1.5 x cantilever)
6. Wind Load Serviceability Criteria based on AS 4055, Vs=0.64 x Vu
7. Oversized gutters may affect the cantilever capability, please contact ARCPANEL
8. Limited racking, diaphragm action and lateral restraint capacity, refer to page 16
9. 300mm maximum side cantilever using full uncut panel
10. Thermal R-Values are Total R-Values (Winter - Tested conductivity 0.038W/m.K at 23˚C)
11. In locations where the roof panels are not fixed to the parallel raked external walls (due to glazing and the like), the engineer shall select the panels using the max wind pressure calculated with upwind local pressure coefficients in accordance with AS1170.2

SPAN TABLE - CYCLONIC - SINGLE SPAN — TABLE 3C

Midspan deflection up to span/120 at serviceability limit state; Self weight deflection up to span/700. Maximum unsupported Spans (mm)

Wind Class (Permissible)	Strength Limit State Design Wind Pressure (P) (kPa)	Total R Value R1.7 75mm Panel		Total R Value R2.0 85mm Panel		Total R Value R2.4 100mm Panel		Total R Value R3.1 125mm Panel		Total R Value R3.5 140mm Panel		Total R Value R4.1 160mm Panel		Total R Value R4.5 175mm Panel		Total R Value R5.2 200mm Panel		Total R Value R6.5 250mm Panel	
		Max Span	Max Cantilever	Max Span	Max Cantilever	Max Span	Max Cantilever	Max Span	Max Cantilever	Max Span	Max Cantilever	Max Span	Max Cantilever	Max Span	Max Cantilever	Max Span	Max Cantilever	Max Span	Max Cantilever
C1-W41	**3.11**	**3100**	**930**	**3600**	**1080**	**4000**	**1200**	**4600**	**1380**	**5200**	**1560**	**5300**	**1590**	**5900**	**1770**	**6400**	**1920**	**8500**	**2500**
	3.41	2930	875	3400	1020	3830	1145	4440	1330	5000	1500	5100	1530	5680	1700	6180	1850	8180	2400
	3.71	2760	825	3200	960	3660	1095	4280	1280	4800	1440	4900	1470	5460	1635	5960	1785	7860	2300
	4.01	2590	775	3000	900	3490	1045	4120	1235	4600	1380	4700	1410	5240	1570	5740	1720	7540	2200
	4.32	2420	725	2800	840	3320	995	3960	1185	4400	1320	4500	1350	5020	1505	5520	1655	7220	2100
C2-W50	**4.62**	**2250**	**675**	**2600**	**780**	**3150**	**945**	**3800**	**1140**	**4200**	**1260**	**4300**	**1290**	**4800**	**1440**	**5300**	**1590**	**6900**	**2000**
	5.03	2140	625	2470	720	2980	870	3640	1060	4010	1170	4120	1200	4590	1335	5080	1480	6480	1840
	5.43	2030	575	2340	660	2810	795	3480	980	3820	1080	3940	1110	4380	1235	4860	1370	6060	1680
	5.84	1920	525	2210	600	2640	720	3320	905	3630	990	3760	1025	4170	1135	4640	1265	5640	1520
	6.24	1810	475	2080	545	2470	645	3160	825	3440	900	3580	935	3960	1035	4420	1155	5220	1360
C3-W60	**6.65**	**1700**	**425**	**1950**	**485**	**2300**	**575**	**3000**	**750**	**3250**	**810**	**3400**	**850**	**3750**	**935**	**4200**	**1050**	**4800**	**1200**
	7.13	1640	410	1870	465	2200	550	2840	710	3080	770	3220	805	3600	900	4040	1010	4540	1130
	7.61	1580	395	1790	445	2100	525	2680	670	2910	725	3040	760	3450	860	3880	970	4280	1060
	8.09	1520	380	1710	425	2000	500	2520	630	2740	685	2860	715	3300	825	3720	930	4020	990
	8.57	1460	365	1630	405	1900	475	2360	590	2570	640	2680	670	3150	785	3560	890	3760	920
C4-W70	**9.05**	**1400**	**350**	**1550**	**385**	**1800**	**450**	**2200**	**550**	**2400**	**600**	**2500**	**625**	**3000**	**750**	**3400**	**850**	**3500**	**850**

PLEASE NOTE: Maximum cantilever is 30% of backspan (span closest to cantilever) in cyclonic Regions

SPAN SELECTION NOTES (CYCLONIC AREAS)

1. Table 3C applies to typical enclosed buildings built on the ground, less than 20m high with sealed doors and windows capable of resisting the applied wind pressures
2. Roof pressure coefficients: Cpe = 1.5 X -0.9 = -1.35, Cpi = +0.7
3. Maximum cantilever for all cyclonic areas is up to 30% actual backspan (Maximum cantilever lengths cannot be exceeded. Choose a thicker panel to achieve the required cantilever) (Minimum width of cantilevered roof is 1.5 x cantilever)
4. Wind Load Serviceability Criteria based on AS 4055, Vs=0.64 x Vu
5. Oversized gutters may affect the cantilever capability, please contact ARCPANEL for advice
6. Limited racking, diaphragm action and lateral restraint capacity, refer to page 16
7. 300mm maximum side cantilever using full uncut panel
8. Thermal R-Values are Total R-Values (Winter - Tested conductivity 0.038W/m.K at 23˚C)
9. In locations where the roof panels are not fixed to the parallel raked external walls (due to glazing and the like), the engineer shall select the panels using the max wind pressure calculated with upwind local pressure coefficients in accordance with AS1170.2

REFER TO PAGE 18 FOR MAXIMUM DEAD LOADS.

GENERAL SPAN SELECTION NOTES

Live Loads:
Maximum distributed live load 0.25kPa.

Roofs in Alpine Areas:
Designer must refer to ARCPANEL for engineering advice regarding snow loadings.

Deflection Limits:
The ARCPANEL span tables have been provided with specific deflection limits indicated for serviceability wind speeds. The building designer must take all necessary care to select an appropriate panel thickness for their specific situation, taking into account the amount of potential roof panel movement relative to any attached non-structural elements, such as internal wall partitions and window frames etc. The building designer must also make allowance for deflections which can exceed those in the tables when the wind speeds are occasionally above the designated serviceability wind speed during extreme weather conditions.

Cantilever Deflections:
Note that cantilever deflections will depend on the backspan, rigidity of supports, building geometry and building permeability. Cantilever deflection can be up to (cantilever length) / 50 at serviceability wind speeds. The building designer must take all necessary care to select an appropriate panel thickness for their specific situation taking into account the amount of potential roof panel movement at the ends of and along the sides of cantilevered sections of the roof, relative to any adjacent attached flashings, downpipes, screen partitions and walls. The builder designer must also make allowance for cantilever deflections which can exceed (cantilever length) / 50 when wind speeds occasionally exceed serviceability wind speeds during extreme weather conditions. Cantilever deflections due to self weight can be up to (cantilever length) / 400.

NOTE: ABOVE SPAN TABLES ARE APPLICABLE TO ARCPANEL CUSTOM PANEL ONLY AND ARE ACHIEVABLE BY USING PROVEN MANUFACTURING METHODS AND PRODUCT TESTING. STRUCTURAL ADEQUACY OF THE PANEL IS CERTIFIED BY ARCPANEL CONSULTING ENGINEERS.

Version 2021. Always refer to local state building regulations and current safety requirements. Updated: 01/11/2022.

ARCPANEL CUSTOM PANEL SPAN TABLE - ATTACHED CANOPY (NON CYCLONIC)

TABLE 3D

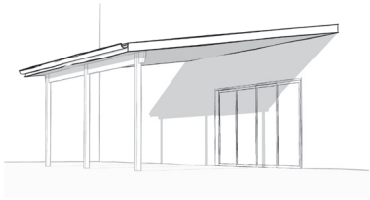
*SPAN TABLES FOR CANOPIES, AWNINGS & CARPORTS **ATTACHED TO BUILDINGS***

WIND CLASS	PANEL THICKNESS	ATTACHED				FREE STANDING			ALL
		3 Sides Open Case A	2 Sides Open Case B	1 Side Open Case C	Enclosed Case D	Attached Fly-over Roof	Free Roof Blockage <75%	Free Roof Blockage >75%	
		Max Span	Max Span	Max Span	Max Span	Max Span	Max Span	Max Span	Max Cantilever
N2-W33	75	5145	5145	5145	5145	5145	5250	5145	1800
	85	5700	5700	5550	5550	5700	5825	5700	1940
	100	6510	6510	6510	6510	6510	6655	6510	2275
	125	7875	7875	7875	7875	7875	7960	7875	2750
	140	8505	8505	8505	8505	8505	8700	8505	2975
	160	8925	8925	8925	8925	8925	9540	8925	3125
	175	9975	9975	9975	9975	9975	10150	9975	3475
	200	11025	11025	11025	11025	11025	11075	11025	3850
	250	12500	12500	12500	12500	12500	12800	12500	4375
N3-W41	75	5000	4600	4200	4200	4600	5220	4600	1475
	85	5400	4950	4575	4575	4950	5775	4950	1600
	100	6300	5800	5355	5355	5800	6600	5800	1875
	125	7600	7000	6405	6405	7000	7900	7000	2240
	140	8300	7650	7035	7035	7650	8650	7650	2460
	160	9200	8500	7350	7350	8500	9540	8500	2570
	175	9900	9100	8400	8400	9100	10150	9100	2940
	200	10950	10100	9240	9240	10100	11075	10100	3230
	250	12500	12000	10400	10400	12000	12800	12000	3640
N4-W50	75	4100	3600	3360	3360	3600	4375	3600	1005
	85	4450	4075	3750	3750	4075	4850	4075	1125
	100	5200	4800	4355	4355	4800	5525	4800	1305
	125	6300	5800	5250	5250	5800	6625	5800	1575
	140	6900	6350	5775	5775	6350	7275	6350	1730
	160	7700	7050	6090	6090	7050	8075	7050	1825
	175	8250	7550	6930	6930	7550	8675	7550	2075
	200	9150	8400	7665	7665	8400	9600	8400	2300
	250	10900	10000	8700	8700	10000	11400	10000	2400
N5-W60	75	3100	2700	2520	2520	2700	3650	2700	630
	85	3725	3175	2775	2775	3175	4075	3175	695
	100	4400	3800	3465	3465	3800	4650	3800	865
	125	5300	4800	4305	4305	4800	5575	4800	1075
	140	5800	5300	4725	4725	5300	6125	5300	1180
	160	6400	5900	5040	5040	5900	6825	5900	1260
	175	6950	6350	5760	5760	6350	7325	6350	1415
	200	7750	7050	6300	6300	7050	8125	7050	1575
	250	9200	7900	6300	6300	7900	9675	7900	1900

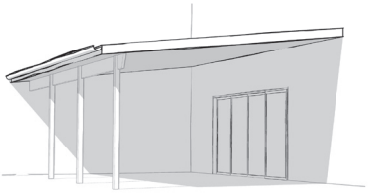
APPLICATION EXAMPLES

Attached canopy span tables apply to panels used for canopies, awnings, patio and building roofs that are attached to another building.

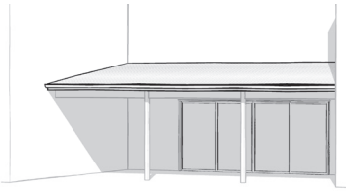
Case A, B, C and D attached canopies must be lower than the building eaves.



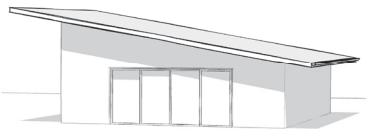
3 SIDES OPEN (CASE A)



2 SIDES OPEN (CASE B)



1 SIDE OPEN (CASE C)



FULLY ENCLOSED (CASE D)

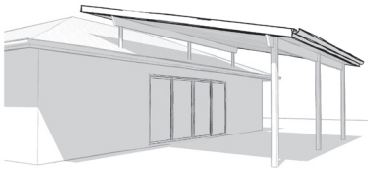
SPAN SELECTION NOTES (NON CYCLONIC AREAS)

1. Spans selected in accordance with the above maximum limits are certified to be structurally adequate in accordance with AS1170.2-2011.
2. Refer to Custom roof panel span notes for cyclonic and non cyclonic spans on page 8 and 9. Refer to Custom roof panel fixing information (pages 12-13).
3. Max deflections at midspan are L/70 at permissable design wind pressures. Max deflections at midspan are L/250 for 0.25kPa Live Load.
4. Max Dead Load deflections are L/500 (N2-W33).
5. The slope of an attached canopy, fly-over roof, or free roof with a monoslope (single skillion) roof must be less than or equal to 10 degrees. The slope of an attached canopy, fly-over roof, or free roof with a pitched (gable, double skillion) roof must be less than or equal to 22.5 degrees.

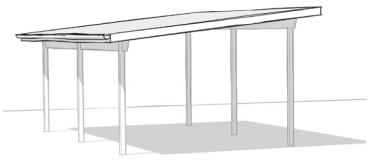
APPLICATION EXAMPLES

Free roof and attached fly-over span tables apply to panels used for canopies, patio and building roofs that are not enclosed by walls underneath.

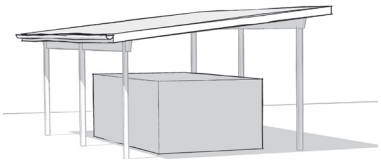
'Roof Blockage >75%' implies that items stored under the roof block more than 75% of the cross section exposed to the wind.



ATTACHED FLY OVER



FREE ROOF BLOCKAGE < 75%



FREE ROOF BLOCKAGE > 75%

ARCPANEL CUSTOM PANEL SPAN TABLE - ATTACHED CANOPY (CYCLONIC)

TABLE 3E

SPAN TABLES FOR CANOPIES, AWNINGS & CARPORTS ***ATTACHED TO BUILDINGS***

WIND CLASS	PANEL THICKNESS	ATTACHED					FREE STANDING		ALL
		3 Sides Open Case A	2 Sides Open Case B	1 Side Open Case C	Enclosed Case D	Attached Fly-over Roof	Free Roof Blockage <75%	Free Roof Blockage >75%	
		Max Span	Max Span	Max Span	Max Span	Max Span	Max Span	Max Span	Max Cantilever
C1-W41	75	5000	4200	3600	3100	4200	5220	4200	930
	85	5350	4925	4300	3450	4925	5775	4925	1035
	100	6300	5800	5200	4000	5800	6600	5800	1200
	125	7600	7000	6400	4600	7000	7900	7000	1380
	140	8300	7650	7050	5200	7650	8650	7650	1560
	160	9200	8500	7850	5300	8500	9540	8500	1590
	175	9900	9100	8450	5900	9100	10150	9100	1770
	200	10950	10100	9350	6400	10100	11075	10100	1920
	250	12500	12000	11100	8500	12000	12800	12000	2500
C2-W50	75	3500	3000	2600	2250	3000	4100	3000	675
	85	4150	3550	3050	2475	3550	4850	3550	745
	100	5000	4200	3600	3150	4200	5525	4200	945
	125	6300	5600	4800	3800	5600	6625	5600	1140
	140	6900	6350	5500	4200	6350	7275	6350	1260
	160	7700	7050	6400	4300	7050	8075	7050	1290
	175	8250	7550	7000	4800	7550	8675	7550	1440
	200	9150	8400	7800	5300	8400	9600	8400	1590
	250	10900	10000	9250	6900	10000	11400	10000	2000
C3-W60	75	2600	2200	1950	1700	2200	3000	2200	425
	85	3050	2600	2275	1850	2600	3500	2600	465
	100	3600	3100	2700	2300	3100	4300	3100	575
	125	4700	4000	3450	3000	4000	5575	4000	750
	140	5400	4600	3900	3250	4600	6125	4600	810
	160	6300	5300	4550	3400	5300	6825	5300	850
	175	6950	5850	5000	3750	5850	7325	5850	935
	200	7750	6800	5800	4200	6800	8125	6800	1050
	250	9200	7900	6580	4800	7900	9675	7900	1200
C4-W70	75	2000	1750	1600	1400	1750	2350	1750	350
	85	2350	2050	1800	1500	2050	2700	2050	375
	100	2800	2400	2100	1800	2400	3275	2400	450
	125	3600	3050	2650	2200	3050	4200	3050	550
	140	4100	3450	3000	2400	3450	4825	3450	600
	160	4700	4000	3400	2500	4000	5600	4000	625
	175	5200	4400	3800	3000	4400	6200	4400	750
	200	6000	5050	4350	3400	5050	7000	5050	850
	250	7250	5790	4830	3500	5790	7250	5790	850

SPAN SELECTION NOTES (CYCLONIC AREAS)

1. Spans selected in accordance with the above maximum limits are certified to be structurally adequate in accordance with AS1170.2-2011.
2. Refer to Custom roof panel span notes for cyclonic and non cyclonic spans on page 8 and 9. Refer to Custom roof panel fixing information on (pages 12-13).
3. Max deflections at midspan are L/70 at permissable design wind pressures.
   Max deflections at midspan are L/250 for 0.25kPa Live Load.
4. Max Dead Load deflections are L/500 (N2-W33).

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